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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/031,184

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EXAMINER

SAETHER, FLEMMING

ART UNIT

PAPER NUMBER

3677

MAIL DATE

DELIVERY MODE

08/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/031,184

Applicant(s)

BEELES ET AL.

Examiner

Flemming Saether

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-14,16-25 and 27-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-14, 16-25 and 27-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 12, 24 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 11, 12, 24 and 25 depend from claims that have been canceled. Specifically, claims 2 and 15, from which 11, 12, 24 and 25 depend, have been canceled.

***Claim Rejections - 35 USC § 103***

Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Briles (US 3,550,498) in view of Bogatz (US 6,283,691) and further in view of Rath (US 4,768,910). Initially, it should be noted that although Briles shows a nut, it is disclosed "the invention may be embodied in a swage-collar type of nut in the same manner as in the threaded type of nut" (column 9, line 44-45). In that regard, Briles discloses a swage fastener system in combination with a composite assembly of workpieces (62) comprising a pin (54) and a collar (12, 14). The pin includes a threaded (60) and non-threaded portion (56, 58). The collar includes an outwardly flared end portion (20) and a main central bore (at 24) with a shoulder having a larger diameter receiving a sealing insert (16). The sealing insert is deformable so that upon installation it interfaces with the unthreaded and threaded portion of the pin and a workpiece to form a seal (see Fig. 4). The nut is made of a metal and since it is

discloses a "swage" collar, by definition it would be deformable. Briles disclose the sealing insert to be made of tetrafluoroethylene (TEFLON, column 7 line 69). In Briles, the "collar" is read to be inclusive of the member (14) and as such the sealing insert is "tightly sealed" entirely within the collar in the installed condition (see Fig. 4) in engagement with the fastener and a base portion (32) contacts the workpiece. The member (14) is disclosed, as not being required thus the collar being unitary in that it would be formed as a single piece. The unitary collar has a flat even surface between any two of the channels 52. By virtue of the channels (52), Briles fails to disclose a continuous annular well where the insert has an external diameter no greater than diameter of the well. Bogatz discloses a fastener (12) having a continuous annular well (16) receiving a sealing insert (48) configured such that the external diameter of the insert is no larger than the continuous well. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to make the annular well of Briles continuous and sealing inserted having an external diameter no greater than the well as disclosed in Bogatz because Bogatz discloses a superior configuration which prevents the failure of the sealing member as is discussed in Bogatz. Modified Briles does not disclose the smooth rounded shoulder on the external surface. Rath discloses a swage collar having a smooth rounded shoulder (see Fig. 3) once it has been swaged over the shaft. At the time the invention was made it would have been obvious for one of ordinary skill in the art to swage the collar of modified Briles to have a smooth rounded shoulder as disclosed in Rath because the smooth shape would be less likely to have any areas of localized stress which would make an overall stronger connection.

Rath further teaches the collar could be made of aluminum or titanium (column 2, line 61-64). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to make the collar of Briles out of aluminum or titanium as disclosed in Rath in order to make the collar lighter and stronger restively. Lighter and stronger collars would be desirable in applications such as aerospace.

Claims 13, 14, 16, 17, 20-23, 27, 28 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Briles (US 3,550,498) in view of Bogatz (US 6,283,691) and further in view of Dixon (US 4,867,625). Initially, it should be noted that although Briles shows a nut, it is disclosed "the invention may be embodied in a swage-collar type of nut in the same manner as in the threaded type of nut" (column 9, line 44-45). In that regard, Briles discloses a swage fastener system in combination with a composite assembly of workpieces (62) comprising a pin (54) and a collar (12, 14). The pin includes a threaded (60) and non-threaded portion (56, 58). The collar includes an outwardly flared end portion (20) and a main central bore (at 24) with a shoulder having a larger diameter receiving a sealing insert (16). The sealing insert is deformable so that upon installation it interfaces with the unthreaded and threaded portion of the pin and a workpiece to form a seal (see Fig. 4). The nut is made of a metal and since it is discloses a "swage" collar, by definition it would be deformable. Briles disclose the sealing insert to be made of tetrafluoroethylene (TEFLON, column 7 line 69). In Briles, the "collar" is read to be inclusive of the member (14) and as such the sealing insert is "tightly sealed" entirely within the collar in the installed condition (see Fig. 4) in

engagement with the fastener and a base portion (32) contacts the workpiece. The member (14) is disclosed, as not being required thus the collar being unitary in that it would be formed as a single piece. The unitary collar has a flat even surface between any two of the channels 52. By virtue of the channels (52), Briles fails to disclose a continuous annular well where the insert has an external diameter no greater than diameter of the well. Bogatz discloses a fastener (12) having a continuous annular well (16) receiving a sealing insert (48) configured such that the external diameter of the insert is no larger than the continuous well. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to make the annular well of Briles continuous and sealing inserted having an external diameter no greater than the well as disclosed in Bogatz because Bogatz discloses a superior configuration which prevents the failure of the sealing member as is discussed in Bogatz. Modified Briles does not disclose the collar having a smooth rounded external surface prior to being swaged nor the swage tool having a smoothly rounded neck down portion. Dixon discloses a swage collar (14e) having a flange (10e) where it is shown the transition to the flange is formed as a smooth rounded concave portion (see Fig. 9) and the swage tool is (54e) is shown to have a smooth rounded neck portion (see Fig. 10) which is used for swaging the collar. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to swage the collar onto the pin in Briles by a process as disclosed in Dixon for its recognized efficiency. The smooth surfaces facilitating the swaging operation by allowing for the material to flow efficiently when

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swaged without the formation of localized areas of stress as would occur at sharp transitions thus making for a stronger fastener.

Claims 18, 19, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over modified Briles as applied to claims 13, 17, 27 and 28 above, and further in view of Rath (US 4,768,910). Modified Briles does not disclose the collar made of aluminum or titanium. Rath disclose a swage collar and teaches it could be made of aluminum or titanium (column 2, line 61-64). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to make the collar of Briles out of aluminum or titanium as disclosed in Rath in order to make the collar lighter and stronger restively. Lighter and stronger collars would be desirable in applications such as aerospace.

Claims 11, 12, 24 and 25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over modified Briles as applied to claims 1 and 13 above, and further in view of Breed (US 3,399,589). Briles does not disclose the sealing insert secured to the Collar by complementary rounded flange and groove. Breed discloses a sealing insert secured to nut member by a complementary rounded groove and flange (72). At the time the invention was made, it would have been obvious for one of ordinary skill in the art to provide the seal insert and collar of Briles with a complementary rounded groove and flange as disclosed in Breed in order to

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provide better securement of the seal insert within the collar. The better securement would help prevent the seal insert from coming loose and possibly detached.

### ***Response to Remarks***

Applicant's remarks have been considered but, are moot in view of the new grounds of rejection as necessitated by applicant's amendment. Specifically, the references to Rath and Dixon have been included with the previous rejection for disclosing the smooth curved surfaces.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

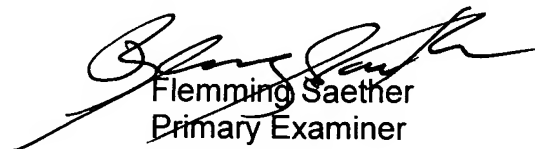
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Flemming Saether whose telephone number is 571-272-7071. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Flemming Saether  
Primary Examiner  
Art Unit 3677